OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM

November 28, 2016

TO: Files

THROUGH: Legal

THROUGH: Richard Groshong, Environmental Programs Manager
Compliance and Enforcement Group

THROUGH: Peer Review

FROM: Camas Frey, Environmental Programs Manager
Enforcement Section

cc: Lonnie Covalt
Senior Environmental Specialist
DCP Midstream, LP
3201 Quail Springs Parkway, Suite 100
Oklahoma City, Oklahoma 73134-2621
(405) 605-3884
Contacted by email.

SUBJECT: Partial Compliance Evaluation at **DCP Midstream, LP**
Concho Booster
Southwest quarter of section 5, township 13N, range 8W
Canadian County, Oklahoma
AIRS ID NUMBER 017-00004
PCE ID NUMBER 39456
Yukon Booster
Northwest quarter of section 12, township 12N, range 6W
Canadian County, Oklahoma
AIRS ID NUMBER 017-00047
PCE ID NUMBER 39455
Union City Booster
Southeast quarter of section 34, township 11N, range 7W
Canadian County, Oklahoma
AIRS ID NUMBER 017-00009
PCE ID NUMBER 39454

Introduction

On October 14, 2016, an announced air quality partial compliance evaluation ("PCE") was conducted at the DCP Midstream, LP ("DCP"), Union City Booster ("Union City") from 09:35 to 10:05 AM, at Yukon Booster ("Yukon") from 10:30 to 10:55 AM, and at Concho Booster ("Concho") from 11:35 to 11:55 AM. The evaluation was announced since these sites are unmanned facilities. The evaluation was conducted by Camas Frey and Brad Flaming, Environmental Programs Managers, and Chad Haecherl, Environmental Programs Specialist for the Oklahoma Department of Environmental Quality, Air Quality Division ("Department"). DCP was represented by Lonnie Covalt, Senior Environmental Specialist. Proper credentials were presented upon arrival.

On-site Evaluation

The evaluations were conducted on October 14, 2016 as part of referred enforcement cases to determine if sump tanks located at Union City, Yukon, and Concho are subject to Part 60, Subpart OOOO. The inspectors arrived on site at each Facility and proceeded to use an infrared camera ("FLIR") to determine if any Volatile Organic Compounds ("VOC") were escaping from the sump tanks. The FLIR camera revealed that significant emissions and probable VOCs were flashing from each of the sump tanks at Union City, Yukon, and Concho. See Attachment #1 for a still picture taken from each site using the FLIR camera.

Also while on-site, each facilities sump tank size and function was discussed. At Union City, the sump tank is a 3,360-gallon fiberglass tank located underground and replaced in October of 2014. Based on the construction date, this tank is potentially subject to Subpart OOOO. The sump at Union City receives condensate and water from the inlet scrubber and compressor suction scrubbers, as well as oil and water runoff from the engine skids. The sump is fed from these sources by gravity and when the sump tank reaches a certain level, the pump engages to pump liquids from the underground sump into the condensate storage tanks. A majority, if not all of the condensate liquid flashing occurs at this sump tank and not the condensate tanks.

At Yukon, the sump tank is a 6,720-gallon metal underground tank which was installed in January of 2010 prior to promulgation of Subpart OOOO. The sump at Yukon receives condensate and water from the inlet scrubber and compressor suction scrubbers, but has a separated environmental sump for the oil and water runoff from the engine skids. The sump is fed from these sources by gravity and when the sump tank reaches a certain level, the pump engages to pump liquids from the underground sump into the condensate storage tanks. A majority, if not all of the condensate liquid flashing occurs at this sump tank and not the condensate tanks.

At Concho, the sump tank is a 3,360-gallon fiberglass tank located underground and replaced in October of 2014. Based on the construction date, this tank is potentially subject to Subpart OOOO. The sump at Concho receives condensate and water from the inlet scrubber and compressor suction scrubbers, as well as oil and water runoff from the engine skids. The sump is fed from these sources by gravity and when the sump tank reaches a certain level, the pump engages to pump liquids from the underground sump into the condensate storage tanks. A majority, if not all of the condensate liquid flashing occurs at this sump tank and not the condensate tanks.

The sump tanks at Union City and Concho replaced in October of 2014. These sump tanks have manufacture dates after September 18, 2012, and are therefore potentially subject to the requirements of Subpart OOOO.

In Subpart OOOO under the definition of "storage tank", there is an exemption that states "Process vessels such as surge control vessels, bottoms receivers, or knockout vessels" are not considered storage vessels. DCP has maintained that its sump tanks are what they call "flow through" vessels and therefore fall under the broad definition that exempts process vessels (Attachment #2). Yet the basis for calling these vessels "process vessels" rather than "storage tanks" should be whether the liquids are "passing through" or are stored in the sump tanks. When asked how often the sump tank pump must dump liquids to the condensate tanks, Mr. Covalt did a calculation of the amount of condensate/water produced verse the size of the tank. Mr. Covalt calculated that the pump must dump at least 3.23 times a month for Yukon, 5.38 times a month for Concho, and 6.87 times a month for Union City (Attachment #3). This is equivalent to every 9.2 days for Yukon, 5.5 days for Concho, and every 4.3 days for Union City. Even if a conservative scenario is used where the pump is dumping liquids twice this often, the pump at Union City it would still only dump every 2nd day.

Based on this information above, the sump tank appears to be "storing" the liquids on a more regular basis than they "pass" the liquids to the next vessel, and therefore seem to be short term storage tanks. Therefore, the DEQ believes the sump tanks fit the definition of a storage vessel because they: "contain an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials...which provide structural support." Also, the tank is not skid mounted, should not be considered process vessels because their primary purpose is short term storage, and are not a pressure vessels. This eliminates all exemptions found in Subpart OOOO.

The Department has found in addition to Concho and Union City, that the DCP-Stolz Booster Station and the DCP-Lightning Compressor Station both have a sump tank potentially subject to Subpart OOOO as well. The Stolz Booster sump tank manufacture date was listed as 2012 and total annual emissions estimated at 7.05 TPY of VOC, which is above the Subpart OOOO limit of 6 TPY. The Lightning Compressor Station sump tank manufacture date was listed as October, 2014 and total annual emissions estimated at 7.57 TPY of VOC, which is above the Subpart OOOO limit of 6 TPY.

Summary

The sump tank at Union City was replaced in October of 2014 and the last permit application reports potential emissions of 14.26 TPY of VOC. The Department alleges that DCP is operating the sump tank at Union City in violation of the emission control and notification requirements of Subpart OOOO.

The sump tank at Concho was replaced in October of 2014 and the last permit application reports potential emissions of 20.48 TPY of VOC. The Department alleges that DCP is operating the sump tank at Concho in violation of the emission control and notification requirements of Subpart OOOO.

The sump tank at Stolz Booster Station was replaced in 2012 and the last permit application reports potential emissions of 7.05 TPY of VOC. The Department alleges that DCP is operating the sump tank at Stolz Booster Station in violation of the emission control and notification requirements of Subpart OOOO.

The sump tank at Lightning Compressor Station was installed in October of 2014 and the last permit application reports potential emissions of 7.57 TPY of VOC. The Department alleges that DCP is operating the sump tank at Lightning Compressor Station in violation of the emission control and notification requirements of Subpart OOOO.

The sump tank at Yukon has been operating since January of 2010 and the last permit application reports potential emissions of 29.47 TPY of VOC. The Department alleges that DCP operated the sump tank at Yukon in violation of Oklahoma Administrative Code 252:100-7-15(a)(2)(B)(ii) by failing to obtain a construction permit prior to installation in January of 2010.

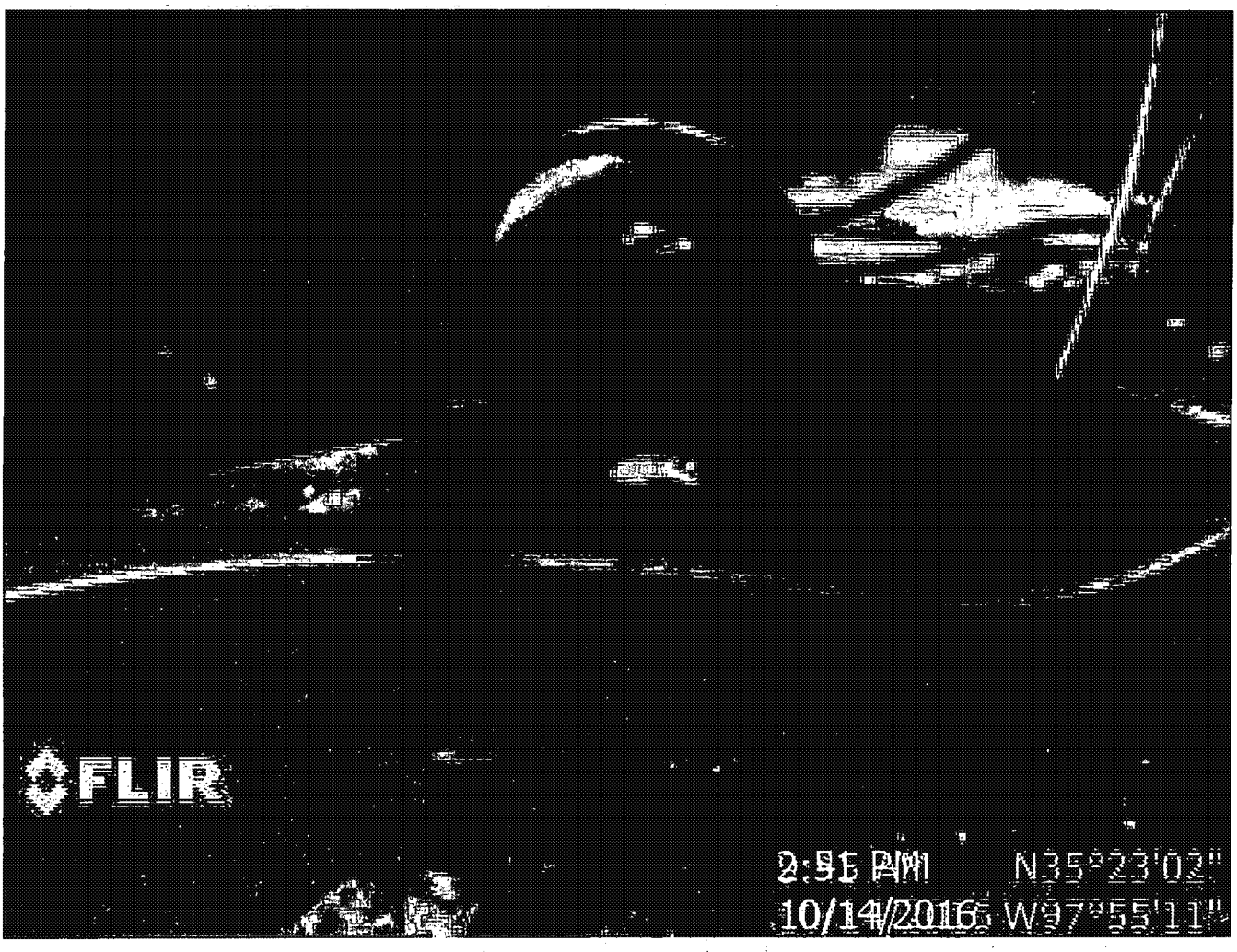
Attachments

1. Still photos from FLIR camera
2. DCP explanation of why sump tanks should be considered process units
3. Email from Lonnie Covalt showing how often pump dumps from sump tank

ATTACHMENT 1

DCP-Concho Booster Sump Tank

DCP-Union City Booster Sump Tank



DCP-Yukon Booster Sump Tank

ATTACHMENT 2

DCP Midstream, LP
3201 Quail Springs Parkway, Suite 100
Oklahoma City, OK 73134-2621
405.605-3884 - Office
405.605-3896- Fax

November 3, 2016

Mr. Eddie Terrill
Division Director
Air Quality Division
Oklahoma Department of Environmental Quality
707 North Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73102-1677

RE: DCP Midstream, LP
Inapplicability of OOOO "Storage Vessel" requirements to compressor station flow-through process sumps, which are Process Vessels

Dear Mr. Terrill

This letter provides additional information, as requested by the Oklahoma Department of Environmental Quality (ODEQ), to determine that standard flow-through process sumps in use at certain DCP Midstream compressor station facilities are not subject to federal OOOO requirements for Storage Vessels (40 C.F.R. Secs. 60.5395, 60.5430). The ODEQ has asked for further clarification on the applicability of the Environmental Protection Agency's (EPA's) regulations in order to reach the conclusion that flow-through process sumps are not subject to the OOOO provisions for Storage Vessels, all by way of progressing with certain pending DCP Midstream air permit applications. While an applicability determination requested of EPA might be one avenue to provide this clarification, the EPA has otherwise sufficiently spoken to the issue in the public record, as discussed below, such that ODEQ should be comfortable making the determination that flow-through process sumps at compressor stations are Process Vessels, and not Storage Vessels under OOOO, and proceeding with the air permits as requested by DCP Midstream.

The liquids flow-through transfer sumps in DCP Midstream's pending permits

The flow-through sumps in question are used to transfer condensate liquids from the inlet separator to the atmospheric storage tanks at the facility. Natural gas enters the compressor facility via pipeline and enters the inlet separator. Inside the separator, natural gas is routed to the compressor engines and liquids are sent to the sump. Once liquids enter the sump, a level switch activates a pump and sends the condensate liquids to the atmospheric storage tanks for storage. Once the level in the sump has been lowered, the pump is deactivated by a low-level switch in order to keep the pump from running dry. The sumps are used as a flow-through due to the pressure at the compressor station inlet separator being inadequate (*e.g.*, 5 psig) to overcome head pressure within the atmospheric tanks, *and the sump pump provides the*

necessary pressure to transfer the liquids into the storage tank at the facility. The sumps are neither intended nor designed for long term storage. The sumps are thus transfer process vessels, transferring liquids from one process to a storage location (facility storage tanks).

EPA has stated in the public record, *in regulation*, that transfer vessels such as flow-through sumps are Process Vessels and not Storage Vessels, and thus are excluded from OOOO requirements for Storage Vessels

EPA has promulgated an exclusion *in regulation* of Process Vessels from the definition of Storage Vessels:

> *"Storage Vessel means a tank or other vessel that contains... For the purposes of this subpart, **the following are not considered storage vessels: ... (2) Process vessels such as surge control vessels, bottoms receivers or knockout vessels."***

40 C.F.R. 60.5430 (emphasis added). In this regulation, EPA states that *any* Process Vessel is not subject to OOOO provisions for Storage Vessels, and notes examples of types of vessels that would qualify as Process Vessels. By providing examples of vessels that meet the definition of Process Vessel, EPA acknowledges and is stating that other vessels, if they meet the characteristics, can also be Process Vessels. As described above, and concluded below, process flow-through sumps fit squarely within the definition of Process Vessels adopted in regulation by EPA.

EPA's *clarification in finalizing its regulation* that various vessels serve a function of transfer, as opposed to storage, and are thus rightly characterized as Process Vessels and excluded from the definition of Storage Vessels in the regulation

In finalizing its OOOO rule, EPA stated the following in response to various public comments that process vessels should be excluded from the definition of Storage Vessels under OOOO:

> *"The EPA agrees with the commenters that process vessels, pressure vessels and knockout vessels should all be excluded from the definition of storage vessel. Process and knockout vessels **are typically used within a process to collect material from one unit before being transferred to another, and thus are not used for storage."***

"Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 40 CFR Parts 60 and 63, Response to Public Comments on Proposed Rule August 23, 2011 (76 FR 52738)" found as part of the EPA rulemaking record at EPA-HQ-OAR-2010-0505-4546, Section 2.5.3.1[1] (emphasis added).

This EPA statement in the public record was in response to various comments from the public provided to the proposed rulemaking record suggesting that various types of process vessels, knockout vessels and the like, including sumps that transfer from a process to storage, be excluded from the definition of Storage Vessel in the regulation, and also various proposals from commenters for regulatory language reflecting the concept. In response to those comments, and in finalizing the regulation language, the EPA did not promulgate a prescriptive and specific regulation, attempting to capture each and every specific vessel type and design that are process vessels, but instead: (i) stated in the regulation that any Process Vessels

[1] https://www.regulations.gov/document?D=EPA-HQ-OAR-2010-0505-4546

were excluded from the definition of Storage Vessel; (ii) kept the term Process Vessel open and broad, *giving some examples of* what would meet that definition ("Process Vessels *such as* surge control vessels, bottom receivers, or knockout vessels."), and; (iii) in its regulatory clarification in the rulemaking record described the typical characteristics of what addresses its open and broad definition of what is a Process Vessel ("*Process and knockout vessels are typically used within a process to collect material from one unit before being transferred to another, and thus are not used for storage.*"). This latter qualitative description from EPA describing the characteristics that make a piece of equipment a process vessel was adopted by EPA from an industry public comment describing a variety of pieces of equipment, including flow-through process sumps, that are process vessels and directly incorporates the same terminology that was proposed by the commenter to *specifically describe sump operations* ["Storage vessel or Tank does not include:... (2) Process tanks, including vessels used for a process function such as reaction, blending, or separation, *vessels such as sumps used to collect discharged material such that it can be transferred to a process or to storage,* vessels used for surge control, and vessels used a knockouts..." Comment from the American Petroleum Institute on the proposed OOOO regulation, found in the EPA rulemaking record at EPA-HQ-OAR-2010-0505-4266, Comment 16.2[2]. EPA thus approved and promulgated the characteristics of a piece of equipment that makes it a process vessel, and those characteristics proposed in the public comment were associated with various vessels provided in the public comment, including flow-through process sumps – EPA approves of those as Process Vessels. *Id.*

EPA did not accept that "sumps" would be regulated under OOOO, and Subpart Kb definition further supports that flow-through process sumps are Process Tanks which are tantamount to Process Vessels.

Furthermore, one commenter specifically suggested to EPA that the agency include "sumps," among other equipment, in its OOOO regulation of storage tanks, and EPA did not promulgate such a requirement. The record reflects that the idea of regulating a "sump" under OOOO was put before EPA, and EPA did not accept that idea and codify such requirements in the regulation[3]. This reflects that EPA did not intend for "sumps" to be regulated under OOOO, which is consistent with the action, described above, that EPA took to specifically exclude "Process Vessels" that transfer materials from one point to another (of which flow-through transfer sumps are included) from the definition of "Storage Vessel."

Lastly, it should be noted that in a parallel regulation, NSPS Subpart Kb regulating oil and gas storage tanks, EPA, similar to the OOOO regulation, regulates Storage Tanks and excludes Process Tanks, but in the Subpart Kb regulation EPA defines 'Process Tanks' with some detail. In that definition of Process Tanks, which is functionally similar to the OOOO term Process Vessel, flow-through process sumps are covered by the term 'Process Tank." In NSPS Kb, EPA defines "process tank" as:

> *Process tank means a tank that is used within a process (including a solvent or raw material recovery process) **to collect material discharged from** a feedstock storage vessel or **equipment within the process before the material is transferred to** other equipment within the process, to **a product** or by-product **storage vessel**, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. **Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.***

---

[2] https://www.regulations.gov/document?D=EPA-HQ-OAR-2010-0505-4266

[3] Comment from Craig H. Segall, Sierra Club et al. on the proposed OOOO regulation, commenting that sumps should be included in the regulation, found in the rulemaking record at EPA-HQ-OAR-2010-0505-4240, Comment II.D.3.c. https://www.regulations.gov/searchResults?rpp=25&po=0&s=EPA-HQ-OAR-2010-0505-4240&fp=true&ns=true

40 C.F.R. 60.111b. Clearly, a flow-through transfer sump as described above fits this definition of a Process Tank – they collect material from a process before that material is transferred to a product or storage vessel. This provides further support that when EPA refers to 'Process Vessels' in OOOO, the agency is aware that equipment like flow-through process sumps, which are used to transfer material, and not store material, are understood to be Process Tanks from a regulatory perspective, which is parallel to the term Process Vessel in OOOO.

These process flow-through sumps are transfer vessels, not storage vessels

The subject process flow-through sumps at the relevant compressor stations are designed and function to temporarily accept liquids so that they can be transferred from 'Point A,' a liquids separator, to 'Point B,' a storage tank. This was described, above, in detail. These flow-through process sumps are transfer vessels. They are not used for storage of liquids – the storage tanks at the facility are used for storage of liquids at the facility. These sumps collect material before being transferred to another piece of equipment – that is what EPA has said in the public record is the definition of a Process Vessel for purposes of OOOO.

Accordingly, EPA has statements in the public record in its OOOO rulemaking that any operational process vessel that temporarily collects material from one unit before being transferred to another is a process vessel, and thus not a storage vessel, and in so promulgating those statements in the public record EPA was including qualifying equipment such as process flow-through sumps noted by public commenters on the proposed regulation.

Based upon EPA statements in the record, as relayed in this communication, ODEQ should feel comfortable concluding that the flow-through process sumps described in this letter are Process Vessels for purposes of the OOOO regulation, are not subject to that regulation's requirements for Storage Vessels, and thus DCP Midstream's subject permits should advance and be issued consistent with this determination.

Should you have questions, please feel free to contact me. DCP Midstream looks forward to ODEQ's actions to move forward on the various pending compressor station permit revisions as proposed by DCP Midstream.

Sincerely,

for

Stephen Ondak
Environmental Manager

ATTACHMENT 3

Frey, Camas

From: Covalt, Lonnie D <LDCovalt@dcpmidstream.com>
Sent: Tuesday, November 08, 2016 10:05 AM
To: Frey, Camas
Cc: Ondak, Stephen R
Subject: RE: Sump Tank issue

Camas, we don't track how many times it dumps, but what I did below was took the condensate and water going through each site for 2015 and 2016 and just divided by the sump size. So I gave a monthly average of how often it dumps. This is assuming the level set point is set at when the sump is completely full. I am sure they dump before that. Also, it's important to note how much is condensate and how much is water as well.

Site	Avg dumps per month	% H20	%Condensate
Yukon	3.23	65%	35%
Concho	5.38	76%	24%
Union City	6.87	39%	61%

Let me know if there is anything else you need. thanks

Lonnie D. Covalt
Principal Environmental Specialist
DCP Midstream L.P.
ldcovalt@dcpmidstream.com
Work – 405-605-3884
Cell – 405-406-7569
Fax – 405-605-3896

From: Frey, Camas [mailto:Camas.Frey@deq.ok.gov]
Sent: Friday, November 04, 2016 11:45 AM
To: Covalt, Lonnie D
Subject: RE: Sump Tank issue

Lonnie,
Any idea how often the pumps actually turn on to move condensate from the sumps into the condensate tanks? Is it hourly, 10 times a day, 2 times a day, every 15 minutes, etc? If you could provide this for the three sites (Union City, Yukon, Concho) I visited it would be helpful since those are the ones I am most familiar with. Thanks.
Camas

From: Covalt, Lonnie D [mailto:LDCovalt@dcpmidstream.com]
Sent: Thursday, November 03, 2016 12:09 PM
To: Frey, Camas

Cc: Flaming, Brad; Fielder, Phillip
Subject: RE: Sump Tank issue

Camas, attached is the letter we are taking to ODEQ this afternoon concerning DCP Midstream Sumps. I am going ahead and sending you all a copy in advance. Please share with anyone else as needed.

Lonnie D. Covalt
Principal Environmental Specialist
DCP Midstream L.P.
ldcovalt@dcpmidstream.com
Work – 405-605-3884
Cell – 405-406-7569
Fax – 405-605-3896